

**Claims**

- 1 1. A ceramic block with a built in electrode comprising:  
2 a first insulating ceramic sheet having a bearing  
3 surface;  
4 a sheet electrode having an inner edge and spreading  
5 out generally parallel to the bearing surface;  
6 a second insulating ceramic sheet enclosing the sheet  
7 electrode together with the first insulating ceramic sheet;  
8 and  
9 a drawn out conductor for supplying voltage to the  
10 sheet electrode the drawn out conductor extending through  
11 the second insulating ceramic sheet and being connected to  
12 the inner edge of the sheet electrode.
- 1 2. The ceramic block with a built in electrode of claim  
2 1, wherein the drawn out conductor is a thin film.
- 1 3. The ceramic block with a built in electrode of claim  
2 2, wherein the drawn out conductor has a thickness of 2 -  
3 150 $\mu$ m.
- 1 4. The ceramic block with a built in electrode of claim  
2 1, wherein the drawn out conductor is tubular.
- 1 5. The ceramic block with a built in electrode of claim  
2 4, wherein the drawn out conductor is cylindrical.
- 1 6. The ceramic block with a built in electrode of claim  
2 1, wherein the drawn out conductor is connected to the sheet  
3 electrode so as to form a perpendicular corner.

1 7. The ceramic block with a built in electrode of claim  
2 1, wherein the second insulating ceramic sheet has a through  
3 hole through which the drawn out conductor passes.

1 8. The ceramic block with a built in electrode of claim  
2 7, wherein the drawn out conductor is attached to an inner  
3 wall of the through hole.

1 9. The ceramic block with a built in electrode of claim  
2 7, further comprising an insulating ceramic shaft is fitted  
3 into the through hole.

1 10. The ceramic block with a built in electrode of claim  
2 7, wherein the inner edge of the sheet electrode is formed  
3 along the opening of the through hole.

1 11. A method of manufacturing a ceramic block with a  
2 built in electrode comprising the steps of:

3 forming a first insulating ceramic sheet having a  
4 bearing surface;

5 forming a second insulating ceramic sheet having a  
6 through hole;

7 forming a sheet electrode, on the surface of at least  
8 one of the first and second insulating ceramic sheet and  
9 spreading generally parallel to the bearing surface;

10 forming a drawn out conductor on an inner wall of the  
11 through hole;

12 forming a laminated body of the first and second  
13 insulating ceramic sheets; and

14 firing the laminated body of the first and second

15 insulating ceramic sheets.

1 12. The method of manufacturing a ceramic block with a  
2 built in electrode of claim 11, further comprising a step  
3 of fitting an insulating ceramic shaft into the through hole.

1 13. The method of manufacturing a ceramic block with a  
2 built in electrode of claim 12, wherein the insulating  
3 ceramic shaft is made from the same material as the first  
4 and second insulating ceramic sheets.

1 14. The method of manufacturing a ceramic block with a  
2 built in electrode of claim 11, wherein the step of forming  
3 a sheet electrode includes a step of coating a conductive  
4 paste.

1 15. The method of manufacturing a ceramic block with a  
2 built in electrode of claim 11, wherein the step of forming  
3 a drawn out conductor includes a step of coating a conductive  
4 paste.

1 16. The method of manufacturing a ceramic block with a  
2 built in electrode of claim 15, wherein the step of forming  
3 a drawn out conductor includes a step of drying a conductive  
4 paste.

1 17. The method of manufacturing a ceramic block with a  
2 built in electrode of claim 16, further comprising a step  
3 of fitting a ceramic shaft into the through hole after the  
4 step of drying a conductive paste.

1 18. The method of manufacturing a ceramic block with a

2 built in electrode of claim 11, wherein the sheet electrode  
3 has a thickness of 2 - 150 $\mu$ m.

1 19. The method of manufacturing a ceramic block with a  
2 built in electrode of claim 11, wherein the drawn out  
3 conductor has a thickness of 2 - 150 $\mu$ m.

1 20. The method of manufacturing a ceramic block with a  
2 built in electrode of claim 11, wherein cold isostatic press  
3 is used in the step of forming a laminated body.